

Agriculture Literacy

Intro to Agriculture

Agriculture, the science of growing plants and raising animals, is important to New York State. About 23% of the state's land area is used by 30,000 farms. Most of these farms—about 98 percent—are family owned, showing that family farmers remain the backbone of New York agriculture.

Milk is New York's leading agricultural product, ranking the state fifth in the United States for milk production and is the largest producer of yogurt, cottage cheese and sour cream.



New York ranks second in the nation for our production of apples. Our leading varieties are McIntosh, Empire, Red Delicious and Golden Delicious. Grapes, for juice and wine, place New York third in U.S. production behind

California and Washington.



Our state ranks second in maple syrup production behind Vermont.



New York farmers also grow pumpkins, corn, cabbage, and many other crops, and they raise animals such as cattle, chickens, and sheep. New York consistently ranks in the top ten nationally for more than 30 agricultural products.

Farmers work in all four seasons, planting in spring, growing and harvesting crops in summer and autumn, and caring for animals and equipment year-round. For more about NYS agriculture be sure to read the following features:

- **Farm Family profiles**
- **An Agriculture Crossword and Word Search**
- **And a Kid-Friendly planting activity using recycled newspapers!**

Newspaper Activity: Look through the newspaper (print or electronic) for stories, pictures or advertisements that show examples of New York State agriculture.

How many examples did your class find?

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Meet The Kukon Brothers

John, Justin and Jordon Kukon are 5th generation farmers who currently run Kukon Brothers, LLC. They grow feed grains and hay, and operate a retail feed store. The brothers work together with four fulltime and two parttime employees. Each year the farm grows about 1,400 acres of corn, 800 acres of soybean, 250 acres of wheat, 60 acres of oats and 400 acres of hay!

They also raise Angus cattle and sell the beef in 1/4, 1/2 or full cow portions.

The farmers use a combine to harvest their grains. Their newest equipment uses auto-steer and GPS technology that automatically adjusts speed and cleaning for the best results. The combine weighs 40,000 pounds when it's empty. Filled with grain, it weighs much more! They sell and transport their products to farms and mills throughout the region. To watch a video of their combine harvesting corn, go online to www.youtube.com/watch?v=CPgLgJfV4as



The Kukon brothers, photo provided.

Kukon Brothers, LLC is located in Columbia County at 2329 US Route 9, Livingston, NY. Their retail feed store is open Monday-Friday 8 AM to 5 PM and 8 AM to Noon on Saturdays. They use the grains grown on the farm to make animal feed. They also carry the full line of Poulin feeds and can supply area farms with hay, straw and shavings.



Fun Fact: The brothers always have work to do in every season and no matter the weather. But during a drought (when growing is slower because of a lack of rain) or on a super rainy day, or even a day with heavy snow they'll spend less time working on the farm and more time enjoying their family and friends! John, Justin and Jordan also work together to make sure each brother and his family gets a break to enjoy time for vacation!

Newspaper Activity: Look through the newspaper (print or electronic) for stories, pictures or ads about industry, or types of businesses, in your community. How many have ties to agriculture? Did you find any involving growing grain or hay or raising animals?

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Meet Nancy and Julia

The mother-daughter farming team of Nancy Robbins and Julia Robbins



Nancy Robbins and Julia Robbins Ledoux, photo provided.

Ledoux operate Old McDonald's Farm. Nancy started the farm in 1986. Julia is a fifth-generation farmer, who began working with her mom fulltime in 2015.

Most visitors come to the farm for a 25-minute hayride with stops to feed the Brown Swiss steers. These gentle giants love the human attention.

Their petting zoo has typical farm animals including goats,

sheep, pigs, donkeys and horses. But, it also includes emus, llamas, alpacas and even a camel named Teeny! (Which is funny because he's quite tall).

In addition to the animals on the farm, Old McDonald's plants a 14-acre corn maze each year using GPS technology to create the design from seed. They also grow and sell sunflowers, zinnias and sweet corn. In Autumn, families can pay to explore and pick their own jack-o-lantern from the farm's giant pumpkin patch.



Teeny and guests, photo provided.

Old McDonald's Farm is located in Jefferson County at 14369 County Route 145, Sackets Harbor, NY 13685 and is open to the public from mid-May though Halloween. Visit them at www.oldmcdonaldhasafarm.com.



Fun Fact: This year, Old McDonald's Farm will be welcoming two Miniture Highland cows. *How small are they?* As adults, they will only be about three foot tall!

Newspaper Activity: Look through the newspaper (print or electronic) for stories, pictures or ads about families. Did you find any examples of families working together? What type(s) of work are they doing?

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Meet CeCe Tkaczyk

CeCe Tkaczyk grew up on a dairy farm but is now raising sheep, processing wool and making dog beds and pillows. She now lives and works on her farm in Delanson with her husband Eric and son Peter and currently has 84 sheep and lambs.



CeCe Tkaczyk with her Jacob sheep at Barton Hill Jacobs in Delanson, NY. Photo credit: Gale Zucker

CeCe sells some of her wool as raw fleece to hand spinners, spins some herself, and sends the rest to a mill for processing.

To turn raw wool into skeins or yarn, by hand or with the help of a processing mill,

is a multi-step process that takes time and effort.

Their pillows and dog beds are individually sewed and hand-stuffed with either wool or organic cotton at a facility in Duaneburg, NY. The natural fibers are safe for your pet, good for small family farms, and better for our planet.

Her favorite time of year on the farm is lambing season, when all the new babies are born. That generally happens in February and March.



A Jacob ewe with her lamb, photo provided



Natural wool skeins, photo provided

CeCe's Wool Yarns and More is a fiber crafts store located in the Hamilton Square Mall, 2080 Western Ave., Guilderland, NY 12084. The store is open M-F 11 AM to 6 PM, Saturday 10 AM to 4 PM, and Sunday Noon to 5 PM. They use as many local suppliers as possible. Visit them at www.ceceswool.com.



Fun Fact: Anyone who would like to learn how to knit or crochet can visit CeCe's Wool store on Thursdays from 5 to 6 PM for free lessons. Other fiber arts classes are available for a fee. See the store's website for details.

Newspaper Activity: Look through the newspaper (print or electronic) and other sources for stories, pictures or ads about fabrics/textiles. Did you find any products that are made with wool?

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Meet Susan Hurd Machamer and Amy Machamer



Susan and Amy, photo provided

Susan and Amy live and work on a 150-acre fruit farm called Hurd Orchards. The farm has been in their family for over 200 years. The mother-daughter team became official business partners in 1985 and the farm is listed on the **NYS Historic Business Preservation Registry**.

Hurd Orchards is located near Lake Ontario in an area called the “Fruit Belt.” This area stretches from the shore of the lake to about 10 miles inland. The cold water of the lake keeps fruit buds dormant longer in spring so they bloom after the danger of frost has passed, since closed buds are protected but open blossoms can be damaged by severe

cold. Along with the rich, well-drained soil, this makes the land excellent for growing fruit. Hurd Orchards grows and sells tree fruits such as apples, peaches, nectarines, plums, pears, and cherries, as well as berries. They ship their produce throughout the the northeast and offer pick-your-own options to visitors when each fruit is ripe and ready to harvest.

Amy believes every season on the farm is special. Spring is full of hope for a successful crop. Summer is busy with caring for the trees and plants. Autumn brings the joy of harvest, Winter is restful and peaceful. As their fruit trees sleep there is less physical work, but they are busy thinking and planning for the next year. To understand how she feels about the farm, Amy recommends people read the poem, **“A Prayer in Spring” by Robert Frost**.

Hurd Orchards is located in Orleans County at 17260 Ridge Road, Holley, NY14470. Their market is open mid-May through Christmas eve, Wednesday-Saturday 10 AM to 4 PM. For more information visit them online at www.hurdorchards.com.



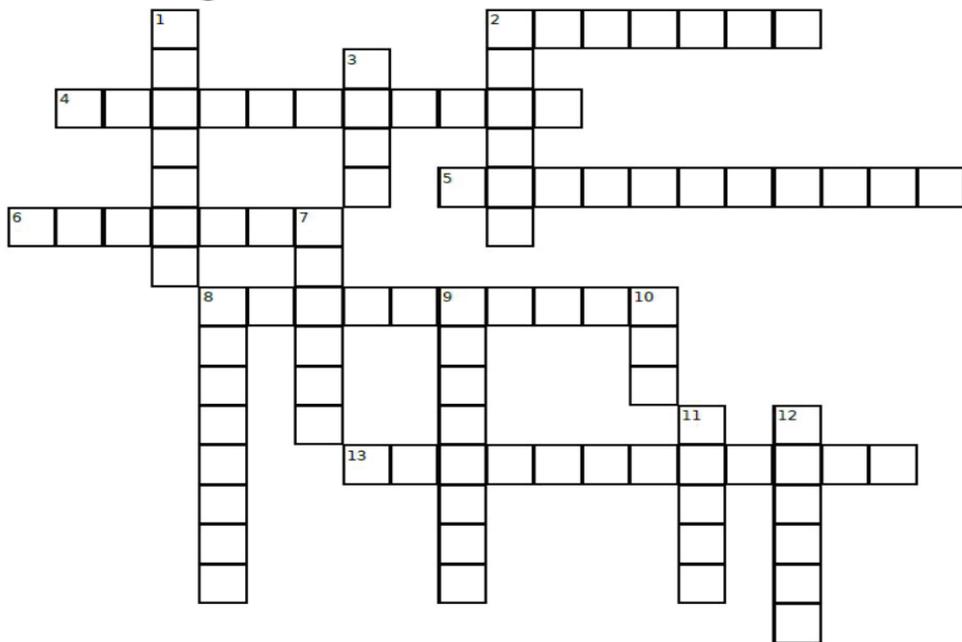
Fun Fact: Several years ago, workers clearing an old part of the apple orchard for new trees discovered a penny from 1820 when they turned over the soil!

Newspaper Activity: Look through the newspaper (print or electronic) for stories, pictures or ads about businesses in your community. How many have ties to agriculture? Did you find any involving growing or selling fruit?

Lesson Extension: Research and compare and contrast the agricultural technologies for a fruit farm of 1826 to those of today.

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Agriculture Crossword



Use the clues below to fill in the agricultural words.

Across

2. Forming a small growth developing into a flower, leaf or branch
4. Cultivation of soil, production of crops, and raising of livestock
5. Moveable device attached to a roof to indicate wind direction
6. One of four quarters of the year
8. Plant stems that are the supporting structure of corn
13. The guiding force behind natural events represented as a woman

Down

1. Gathering of a crops
2. Unable to produce seed fruit or young
3. Dig into, break up and turn over soil
7. To begin to grow
8. Machines that harvest and thresh grains
9. Vehicles with large rear wheels used for pulling farm implements
10. To scatter or plant seeds to grow
11. Large bundles of hay tied to store or ship
12. Season between summer & winter

WORD BANK -
AGRICULTURE
AUTUMN
BALES

BARREN
BUDDING
COMBINES
CORNSTALKS

HARVEST
MOTHER NATURE
PLOW
SEASONS

SOW
SPROUT
TRACTORS
WEATHERVANE

For more vocabulary lists and puzzles go to www.myvocabulary.com

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Agriculture Word Search

F P E Z W Q B S G Q T I I Q Y
P E C P U H U T W L Z U Y T R
L Y Q M O T H E R N A T U R E
O I C T W X H A R V E S T U C
W X O C O R N S T A L K S A O
X J H A U T U M N P U D K T M
W E A T H E R V A N E J N R B
C R W V G V K S J X S S F A I
A D G M Q S P R O U T O Q C N
E I I M O B T O Q V W V W T E
R S E A S O N S W B G U L O S
Q B U D D I N G P A N B G R O
W S U Y Z S U Y H L R X P S N
R Q L C M Q F V X E R J I J W
P B A R R E N X Q S J C F R Y

Find and circle the agricultural words listed below:

AUTUMN
BALES
BARREN
BUDDING
COMBINES

CORNSTALKS
HARVEST
MOTHER NATURE
PLOW
SEASONS

SOW
SPROUT
TRACTORS
WEATHER
VANE

Newspaper Activity: Select a story from the newspaper (print or electronic) that is interesting to your class. Use the important words from the story to make a new word search or crossword puzzle. Give yourselves extra credit if the story has any connection to New York state agriculture.

For more about NYS agriculture go to newyork/agclassroom.org

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DYI - Newspaper Seed Pots

Instructions adapted from grownyceducation.org

DIY newspaper seed pots are an eco-friendly, free, and easy way to start seeds for gardening. Made by rolling newspaper strips around a cylinder (like a jar or can) and folding the base, these biodegradable pots allow seedlings to be planted directly into the ground, preventing transplant shock.

Materials Needed:

- Newspapers
- A straight-sided, cylindrical container (jar, glass, or tin can)
- Scissors
- Soil and seeds

Step-by-Step Instructions:

- Cut the newspaper into strips, typically about 3 inches wide and 10 inches long, or use half-sheets for larger pots.
- Take a straight-sided jar or cup and lay it on the edge of a newspaper strip, leaving about an inch of paper extending over the bottom edge. Roll the paper snugly around the cup.
- Push the excess paper at the bottom of the cup inwards to form a base. Use the bottom of the jar to press the paper down to create a firm, flat bottom.
- Gently slide the newspaper pot off the jar and push paper at the bottom to be sure it's flat.
- Fill the pot with seed-starting soil and plant your seeds and water according to instructions.



Photo credit: rakeandmake.com

Tips for Success:

- **Sturdiness:** For extra durability, use three strips of newspaper per pot or wrap a second layer around it.
- **Drainage:** If the pots become too wet, they may become fragile; however, they generally allow for good aeration.
- **Transplanting:** When seedlings have at least 3 sets of true leaves, plant the entire newspaper pot directly into the soil to avoid disturbing the roots.
- **Maintenance:** To prevent transplant shock, “harden off” seedlings by gradually exposing them to outdoor conditions for 1-2 weeks before planting.

To watch short video showing how to make your pot, go to <https://youtu.be/PaFwR7XaJBM>

Newspaper Activity: For a list of 15 Clever Ways to Reuse Old Newspapers at Home and in the Garden, go to <https://www.almanac.com/reusing-newspapers-home-and-garden>

Healthy Tip: Including several daily servings of fruits & vegetables as part of an overall healthy diet may lower the risk of heart disease and certain types of cancer.

Source: www.choosemyplate.gov